TACSM Abstract – Clinical Teaching

Plantar Fasciitis

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ABSTRACT

CLINICAL PRESENTATION & EXAM: A patient with plantar fasciitis will often present symptoms of pain isolated to the media tubercle of the calcaneus, or a burning sensation over the inner foot arch. The symptoms usually start as a dull intermittent pain but tend to progress to sharp and more persistent pains. Patients will typically experience pain within the first steps of the morning, after a prolonged resting period, or after continual stress to the plantar fascia. Plantar fasciitis is a degenerative syndrome of the plantar fascia as a result of repetitive trauma on the calcaneus. The plantar fascia stabilizes the foot arch while walking. Frequency and intensity of stress to plantar fascia causes microtrauma and results in heel pain. **ANATOMY & PATHOLOGY**: Plantar fascia is a thick aponeurosis formed from three bands of dense connective collagen fibers that attach proximally to the medial calcaneal tuberosity and span down to the proximal phalanges. Plantar fascia provides support to the longitudinal arch of the foot by distributing force between the heel and the forefoot during weight bearing activities. The plantar fascia acts as a shock absorber for the foot, protecting nerves, vessels, muscles, and tendons, along with maintenance of the plantar arch of the foot during weight bearing activities. Plantar fasciitis was traditionally considered an inflammatory process, but recent research points primarily to a degenerative process. Plantar Fasciitis is characterized by thickening of fibrous tissue, swelling, edema, increased pain sensitivity, or rupture of plantar fascia. **DIAGNOSTIC TESTING & CONSIDERATIONS**: Plantar Fasciitis can be diagnosed through patient history of signs & symptoms, along with a series of examinations. Foot palpation exams can be done on the medial tuberosity of the calcaneus and the proximal portion of the plantar fascia. Other manual examinations include ankle passive supination and the Windlass test. An X-ray can show possible bone spurs, which are asymptomatic. Bone scans can be used to rule out a stress fracture. An Ultrasound can show thickening of the fascial regions, and magnetic resonance imaging can be used to show swelling of the fascia, indicating plantar fasciitis. **TREATMENT & RETURN TO ACTIVITY**: There are a variety of treatment methods for plantar fasciitis that focus on functional improvement and reducing pain & swelling. Physical treatment methods include physical therapy, massage/manual treatments of soft tissue, stretching exercises, orthotic devices, kinesiotaping, dry needling, and osteopathic or manipulative treatments. Kinesiotaping has been found to reduce pain, swelling, and provide arch support. However, effects of kinesotaping lessen during prolonged running/activity. Along with improved running mechanics, a reduction of running frequency and running on uneven or inclined surfaces will reduce strain on plantar fascia thereby allowing the body to heal. Dry-cupping and electrical stimulation have been shown to reduce pain and increase function in patients with plantar fasciitis. Other treatment methods include laser therapy, iontophoresis, ultrasound, cryoultrasound, low-dose radiotherapy, and extracorporeal shock waves therapy (ESWT). ESWT is a process of creating high pressure waves, generated outside the body, that focus on a certain point inside the body. Pharmacological treatment includes the use of non-steroidal anti-inflammatory drugs (NSAIDS). More serious treatment methods involve surgery for chronic and severe cases of plantar fasciitis.